

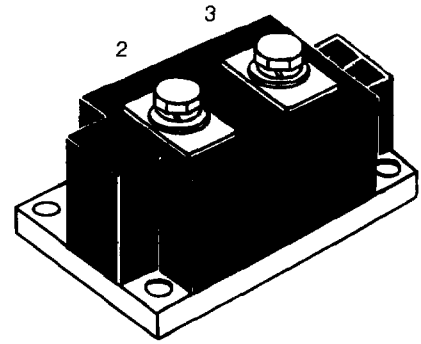
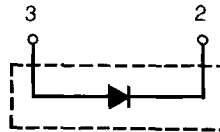
# High Power Single Diode Module

## MDO 500

$V_{RRM} = 1200 - 1600 \text{ V}$   
 $I_{FRMS} = 785 \text{ A}$   
 $I_{FAVM} = 500 \text{ A}$

Preliminary data

$V_{RSM}$	$V_{RRM}$	Type
$V_{DSM}$	$V_{DRM}$	
V	V	
1300	1200	MDO 500-12io1
1500	1400	MDO 500-14io1
1700	1600	MDO 500-16io1



Symbol	Test Conditions	Maximum Ratings	
$I_{FRMS}$	$T_{VJ} = T_{VJM}$	785 A	
$I_{FAVM}$	$T_C = 85^\circ\text{C}; 180^\circ \text{ sine}$	500 A	
$I_{FSM}$	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms (50 Hz)}$	15000 A
	$V_R = 0$	$t = 8.3 \text{ ms (60 Hz)}$	16000 A
$\int i^2 dt$	$T_{VJ} = 45^\circ\text{C}$	$t = 10 \text{ ms (50 Hz)}$	1125000 $\text{A}^2\text{s}$
	$V_R = 0$	$t = 8.3 \text{ ms (60 Hz)}$	1062000 $\text{A}^2\text{s}$
$T_{VJ}$	$T_{VJ} = T_{VJM}$	$t = 10 \text{ ms (50 Hz)}$	845000 $\text{A}^2\text{s}$
		$t = 8.3 \text{ ms (60 Hz)}$	813000 $\text{A}^2\text{s}$
$T_{VJM}$		-40...140	$^\circ\text{C}$
$T_{stg}$		140	$^\circ\text{C}$
$V_{ISOL}$	50/60 Hz, RMS	$t = 1 \text{ min}$	3000 V~
		$I_{ISOL} \leq 1 \text{ mA}$	$t = 1 \text{ s}$
$M_d$	Mounting torque (M6)	4.5-7/40-62	Nm/lb.in.
	Terminal connection torque (M8)	11-13/97-115	Nm/lb.in.
Weight	Typical including screws	750	g

Symbol	Test Conditions	Characteristic Values
$I_{RRM}$	$T_{VJ} = T_{VJM}; V_R = V_{RRM}$	60 mA
$V_F$	$I_F 1200 \text{ A}; T_{VJ} = 25^\circ\text{C}$	1.65 V
$V_{TO}$	For power-loss calculations only ( $T_{VJ} = T_{VJM}$ )	0.8 V
$r_T$		0.6 $\text{m}\Omega$
$R_{thJC}$	DC current	0.06 K/W
$R_{thJK}$	DC current	0.08 K/W
$d_S$	Creeping distance on surface	12.7 mm
$d_A$	Creepage distance in air	9.6 mm
$a$	Maximum allowable acceleration	50 $\text{m/s}^2$

### Features

- Direct copper bonded  $\text{Al}_2\text{O}_3$ -ceramic with copper base plate
- Planar passivated chips
- Isolation voltage 3600 V~
- UL applied

### Applications

- Supplies for DC power equipment
- DC supply for PWM inverter
- Field supply for DC motors
- Battery DC power supplies

### Advantages

- Improved temperature and power cycling
- Reduced protection circuits

### Dimensions in mm (1 mm = 0.0394")

